

ABSTRACT OF THE DISCLOSURE

Systems and methods for solving nogood databases involve generating a representation comprising a plurality of contexted disjunctions, conjoining all of the contexted disjunctions to form a conjunction of contexted disjunctions, and storing the representation as the conjunction of contexted disjunctions. Nogoods are eliminated by refining the representation until a result of the conjunction of contexted disjunctions is backtrack-free or the result of the conjunction of contexted disjunctions reduces to false. In various embodiments, the refining is carried out without reordering the disjunctions and/or without merging the disjunctions. In various embodiments, the systems and methods are used for various constraint satisfaction problems, such as syntactic processing of natural language sentences, map coloring, understanding line drawings, electronic circuit analysis, and truth maintenance systems.